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FIT Clinical Decision Making

THE DOUBLY OBSTRUCTIVE HYPERTROPHIC CARDIOMYOPATHY

Moderated Poster Contributions
Hall C
Saturday, March 29, 2014, 10:00 a.m.-10:15 a.m.

Session Title: FIT Clinical Decision Making: Non-Invasive Imaging
Abstract Category: Non Invasive Imaging
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Background: Hypertrophic cardiomyopathy (HCM) often results in mid-systolic left ventricular outflow tract (LVOT) obstruction secondary to basal septal hypertrophy and systolic anterior motion of the mitral valve. However, other etiologies of LVOT obstruction such as subaortic stenosis may also coexist.

Case: A 68 year-old female presented with a one-year history of exertional chest discomfort. Exam demonstrated a harsh 3/6 mid systolic ejection murmur that decreased from squatting to standing. Resting transthoracic echocardiogram revealed increased wall thickness consistent with HCM. A parabolic profile on continuous-wave (CW) Doppler through the LOVT was seen with a gradient of 112 mm Hg at rest (Figure 1a). Aortic valve excursion was normal.

Decision Making: The decrease in murmur intensity with standing and the lack of a late peaking jet on CW Doppler profile were suggestive of a fixed obstruction, rather than a dynamic LVOT obstruction. Further evaluation by transesophageal echocardiography validated the above by demonstrating a ridge of tissue below the aortic valve (Figure 1b) along with basal septal hypertrophy, both of which contributed to LVOT obstruction. The patient successfully underwent septal myectomy and excision of the subaortic stenosis, leading to resolution of her symptoms.

Conclusion: The case highlights the importance of a comprehensive physical exam and thorough understanding of Doppler hemodynamics which helped identify a concomitant fixed and dynamic obstruction.